



THE REGULATION OF *NITROUS OXIDE* DISTRIBUTION TO PREVENT RECREATIONAL MISUSE IN INDONESIA

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Abstract: *The recreational misuse of nitrous oxide (N₂O), including products marketed under the trade name “Whip Pink”, has become an increasing public health concern in Indonesia despite the substance’s legitimate uses in medical services and the food industry. This study aims to analyze the legal framework governing the distribution and recreational misuse of nitrous oxide products in Indonesia from the perspective of health law and criminal law policy. This research employs a normative legal method using statutory and conceptual approaches. Primary and secondary legal materials were analyzed qualitatively through grammatical and systematic interpretation. The findings indicate that N₂O is not classified as a narcotic under Indonesian law. Although Law Number 17 of 2023 concerning Health and other relevant regulations provides a general legal framework for protecting public health, existing regulations provide legal bases for controlling certain aspects of N₂O production and distribution, the existing regulatory framework remain fragmented. It does not specifically regulate recreational misuse, online distribution, purchaser verification, promotional practices, and the responsibilities of digital platform. These regulatory gaps demonstrate the need for a more integrated legal approach. Accordingly, the article proposes an integrated regulatory model consisting of tighter distribution control, purchaser verification, online marketplace oversight, mandatory health label warnings, public education on health risks, and proportionate criminal sanctions as an ultimatum remedium against intentional unlawful commercial distribution. Unlike previous studies that primarily examine the health impacts or criminalization of N₂O misuse, this study identifies the fragmentation of Indonesia’s framework and develops an integrated regulatory model that distinguishes legitimate medical and food-related uses of N₂O from its recreational misuse.*

Keywords: *Whip Pink; Nitrous Oxide; Health Criminal Law; Inhalant misuse; Public Health.*

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Introduction

Nitrous Oxide (N₂O) is a colorless gas that, when inhaled, may reduce an individual’s sensitivity to pain and, in some cases, induce laughter (Augustyn, 2016). N₂O is also referred to as laughing gas and is primarily utilized as an anesthetic agent in surgical procedures. N₂O is also commonly utilized as a propellant in food products. A propellant refers to a gas that functions to expel food products from their packaging. One example

of its application is in facilitating the formation of foam in whipped cream products (BPOM, 2016).

Along with technological and societal developments, N₂O has increasingly been distributed in the form of cartridges commonly referred to as whip pink. The term whip pink refers to N₂O-filled cartridges that were originally intended for use in the food industry, particularly as propellants for whipped cream products and marketed for specific purposes. Nevertheless, these cartridges have frequently been misused as recreational inhalants. The misuse of N₂O involves inhaling the substance for recreational purposes, which may result in psychoactive effects such as euphoria, tranquility, and relaxation (European Union Drugs Agency, 2026). Initially, during the 1970s, university students began misusing N₂O contained in whipped cream cartridges for recreational purposes. This practice was described as a “cheap legal high”, referring to a legal and inexpensive psychoactive substance that produces intoxicating effects.

However, the misuse of N₂O through inhalation may result in various serious health complications, including hypoxia, vitamin B12 deficiency, and potentially fatal consequences (FDA, 2025). Other studies have likewise reported that the recreational use of N₂O is frequently perceived as harmless. However, repeated exposure may result in severe neurological, cardiovascular, and psychiatric complications. One of the factors contributing to the recreational misuse of N₂O is Indonesia’s existing regulatory framework, which remains fragmented and lacks specific provisions governing recreational misuse, online distribution, purchaser verification, promotional practices, and the oversight of digital platforms. These regulatory shortcomings increase the risk of misuse and pose significant threats to public health.

The misuse of N₂O through whip pink products has emerged as a growing public concern in Indonesia. The Indonesian Food and Drug Authority (BPOM) has reported an increasing trend in the recreational misuse of N₂O across the country. In response to these developments, the Indonesian Government, through the Indonesian Food and Drug Authority (BPOM), issued Circular Letter No. 2 of 2026 concerning the Production, Importation, Registration, and Distribution of Dinitrogen Monoxide as a Food Additive. The Circular Letter represents the Government’s regulatory response aimed at protecting public health, providing legal certainty regarding the production and distribution of N₂O, and ensuring that the use of N₂O in food products complies with established food safety standards. One of its key provisions imposes a limit on the net weight of N₂O contained in primary packaging to no more than 10 grams per unit, thereby reflecting the Government’s preventive approach to mitigating the risk of N₂O misuse. Nevertheless, the BPOM Circular Letter is essentially an administrative instrument designed to provide technical guidance. Consequently, its regulatory scope remains limited and does not comprehensively regulate the recreational misuse of N₂O.

From a legal perspective, N₂O is not classified as a narcotic (Humas Badan Kebijakan Pembangunan Kesehatan, 2026). The Indonesian National Narcotics Agency (BNN) categorizes N₂O as a prescription drug intended exclusively for medical and industrial use. Referring to Law No. 35 of 2009 on Narcotics, N₂O is not listed under any category of narcotic drugs or prohibited substances. Furthermore, Law No. 17 of 2023 on Health and its implementing regulations provide a legal basis for the supervision, production, and distribution of health-related products, including criminal provisions governing the distribution of products that fail to meet established standards of safety, efficacy/benefit, and quality. However, these regulations remain dispersed across various legal instruments and do not specifically address the recreational misuse of N₂O. Accordingly, the legal issue does not stem from the absence of regulation, but rather from the fragmented nature of the existing regulatory framework and the lack of specific legal norms governing the recreational misuse of N₂O as a substance with legitimate medical and food-related applications. Consequently, the principal legal challenge lies in the fragmented regulatory framework, which has yet to establish a comprehensive legal regime capable of effectively controlling the recreational misuse of N₂O.

Previous studies on N₂O have predominantly focused on its medical, toxicological, public health, prevalence, and harm reduction aspects. A study conducted by Jan van Amsterdam, Ton Nabben, and Wim van den Brink, entitled *"Recreational Nitrous Oxide Use: Prevalence and Risks,"* highlights the increasing recreational use of N₂O, which has been driven by its relative legality, affordability, and ease of accessibility, despite the fact that N₂O is primarily intended for clinical use as an anesthetic agent (Amsterdam, 2015). Furthermore, a study conducted by Jualine Allan, Jacqui Cameron, and Juliana Bruno, entitled *"A Systematic Review of Recreational Nitrous Oxide Use: Implications for Policy, Service Delivery and Individuals,"* examines the growing prevalence of recreational N₂O misuse and its associated health risks, emphasizing the need for adequate policy measures and effective strategies to mitigate its adverse consequences (Juliane dkk, 2019). Although these studies make significant contributions to understanding the health consequences of N₂O misuse and the need for policy intervention, they primarily demonstrate that recreational N₂O misuse has emerged as a significant public health concern. However, they do not specifically examine how the Indonesian legal system regulates the distribution of N₂O or the relationship among the various legal instruments governing its circulation. Furthermore, these studies do not address the fragmented nature of the legal framework concerning the recreational misuse of N₂O or explore regulatory models that could be adopted within the Indonesian context. Accordingly, a research gap remains regarding how Indonesia's legal framework regulates the distribution and recreational misuse of N₂O through a fragmented body of legislation, as well as the extent to which this framework is capable of providing effective

legal protection against the misuse of a substance that continues to have legitimate medical and food-related applications.

The novelty of this study lies in its analysis of the fragmented legal framework governing the distribution and recreational misuse of N₂O within the Indonesian legal system. Unlike previous studies, this research extends beyond examining the health consequences of N₂O misuse by analyzing the interrelationship among the various legal instruments governing its production, distribution, and regulatory oversight, while also identifying existing regulatory gaps concerning its recreational misuse. Furthermore, this study proposes a regulatory model that clearly distinguishes the legitimate use of N₂O in the medical and food sectors from its misuse for recreational purposes. Based on the foregoing, this study aims to analyze the legal framework governing the distribution and recreational misuse of N₂O within the Indonesian legal system and to examine the urgency of strengthening its regulation from the perspectives of health law and criminal law policy.

This study employs a normative legal research method. Normative legal research examines legal materials as the primary basis for analyzing the legal norms, principles, and doctrines relevant to the legal issues under investigation (Muhaimin, 2020). This method is employed because the study focuses on evaluating the legal framework governing the distribution and recreational misuse of N₂O within the Indonesian legal system, as well as identifying the interrelationship among the various legal instruments regulating the substance. The research adopts a statutory approach, which is used to examine Law No. 35 of 2009 on Narcotics, Law No. 17 of 2023 on Health, Government Regulation No. 28 of 2024 concerning the Implementing Regulation of Law No. 17 of 2023 on Health, and BPOM Circular Letter No. 2 of 2026 concerning the Production, Importation, Registration, and Distribution of Dinitrogen Monoxide as a Food Additive. In addition, a conceptual approach is employed to analyze the concepts of health criminal law, the recreational misuse of inhalant substances, and the urgency of restricting the distribution of products that pose potential risks to public health.

The legal materials used in this study consist of primary and secondary legal materials. The primary legal materials include relevant legislation and administrative policies, whereas the secondary legal materials comprise books, journal articles, institutional reports, and scholarly publications concerning N₂O, the misuse of inhalant substances, and health criminal law. These legal materials were collected through a literature review, involving a comprehensive examination of relevant written sources pertinent to the subject matter of this study. The legal materials were subsequently analyzed qualitatively using grammatical and systematic methods of legal interpretation. Grammatical interpretation was employed to ascertain the textual meaning of the

relevant legal provisions, whereas systematic interpretation was applied to examine the relationship among the Narcotics Law, the Health Law, the Government Regulation, and the BPOM Circular Letter in regulating the distribution of N₂O. The findings derived from these interpretative methods served as the basis for evaluating the adequacy of the existing legal framework and formulating recommendations to strengthen the regulation of the distribution and recreational misuse of N₂O in Indonesia.

Discussion

Legal Framework Governing the Distribution and Recreational Misuse of Nitrous Oxide (N₂O) in Indonesia

The legal framework governing the distribution and recreational misuse of N₂O in Indonesia must first be analyzed by examining its legal status as a substance with legitimate applications in the medical and food sectors. The legal issue arises when N₂O is diverted from its lawful purposes and used as a recreational inhalant. The recreational use of N₂O is driven by several factors, including its legal status, low cost, and ease of accessibility. These characteristics place N₂O in a different position from narcotic drugs and other prohibited substances, as the legal issue does not arise from the existence of the substance itself, but rather from the deviation of its intended use into a recreational inhalant. Therefore, the analysis of the legal regulation of N₂O must be conducted comprehensively by considering various legal instruments governing its use in the fields of health, food, and distribution oversight.

In the healthcare sector, N₂O is classified as a type of medical gas. The Regulation of the Minister of Health No. 4 of 2016 concerning the Use of Medical Gas and Medical Vacuum Systems in Healthcare Facilities recognizes dinitrogen monoxide or nitrous oxide as one of the types of pure medical gases. This regulation demonstrates that N₂O has a legitimate application in healthcare services; however, its use is restricted to the context of healthcare facilities and is not intended for unrestricted consumption by the general public. Therefore, such legality is limited to use in accordance with medical indications and within healthcare facility environments. Accordingly, the legal issue does not arise from the medical use of N₂O itself, but rather from the diversion of its use into a recreational inhalant beyond its permitted purposes.

Within the Indonesian legal system, N₂O has not been classified under the narcotics law regime. Article 6 paragraph (1) of Law No. 35 of 2009 concerning Narcotics classifies narcotic substances into three categories. Narcotics Category I refers to narcotic substances that may only be used for scientific and research purposes, are not utilized for therapeutic purposes, and possess a very high potential for causing dependence. Narcotics Category II refers to narcotic substances that have medicinal properties, may be used as a last resort in therapy, and are permitted for therapeutic purposes or

scientific development, while having a high potential for causing dependence. Meanwhile, Narcotics Category III refers to narcotic substances that possess medicinal properties, are widely used in therapy or scientific development, and have a lower potential for causing dependence. Based on this classification system, N₂O is not listed as one of the narcotic substances included in the applicable narcotics categories. Consequently, the recreational misuse of N₂O cannot be classified as a narcotics-related criminal offense solely on the basis that it produces psychoactive effects.

In addition to being recognized as a type of medical gas, N₂O is also regulated within the food regulatory framework as a propellant food additive. BPOM Regulation No. 11 of 2019 concerning Food Additives classifies propellants as one of the categories of food additives (BPOM, 2019). In this context, N₂O is used to facilitate the release of food products from their packaging or to assist in the formation of foam in certain products, such as whipped cream. This regulation demonstrates that N₂O has a legitimate function within the food sector. Accordingly, the legal approach toward N₂O cannot be directed toward a total prohibition; rather, it should focus on controlling its distribution and use to prevent its diversion into a recreational inhalant that may pose risks to public health.

The three regulatory frameworks demonstrate that N₂O is considered lawful when used within specific contexts. Indonesian positive law recognizes the existence and utilization of N₂O in the healthcare and food sectors for legitimate purposes. Therefore, the legal issue does not concern the legality of the substance itself, but rather the adequacy of the regulatory framework in preventing the diversion of its use into a recreational inhalant. This condition necessitates a different regulatory approach toward N₂O compared to the regulation of narcotics or other prohibited substances.

The administrative instrument concerning N₂O in Indonesia can be found in BPOM Circular Letter No. 2 of 2026 concerning the Production, Importation, Registration, and Distribution of Dinitrogen Monoxide as a Food Additive. The Circular Letter serves as the government's administrative response to the risks associated with N₂O misuse, particularly in the context of its use as a food additive. Through this regulation, N₂O is not positioned as a substance that is entirely prohibited; rather, it is recognized as a food additive whose production, importation, registration, and distribution must be controlled to ensure that its use remains consistent with its intended purpose (BPOM, 2026). Nevertheless, the substance of this regulation primarily emphasizes administrative aspects and food safety considerations, rather than establishing a legal framework for addressing the misuse of N₂O as a recreational inhalant. Consequently, the Circular Letter does not yet provide a regulatory basis for mechanisms concerning digital distribution oversight, verification of the intended use by purchasers, or the liability of business actors when the product is diverted for recreational purposes.

Although the BPOM Circular Letter is merely administrative in nature, Article 435 in conjunction with Article 138 paragraphs (2) and (3) of Law No. 17 of 2023 concerning Health provides criminal provisions concerning the distribution of pharmaceutical preparations and/or medical devices that fail to meet the safety, efficacy, and quality standards as stipulated under the aforementioned provisions. Furthermore, Article 429 paragraph (1) of Government Regulation No. 28 of 2024 concerning the Implementing Regulation of Law No. 17 of 2023 concerning Health stipulates that the production, distribution, and use of addictive substances shall be directed in a manner that does not interfere with or endanger the health of individuals, families, communities, and the environment. However, the application of these provisions to N₂O-based products requires further analysis, considering that N₂O-based products are generally marketed as food additives rather than pharmaceutical preparations or medical devices, which fall within the scope of Article 435 of Law No. 17 of 2023 concerning Health. Furthermore, Article 429 of Government Regulation No. 28 of 2024 does not provide explicit normative recognition that N₂O is classified as an addictive substance. Accordingly, the legal issue does not solely concern the misuse of N₂O, but also relates to the classification of N₂O-containing products within the Indonesian legal system. This condition demonstrates that the regulation of N₂O remains dispersed across several legal regimes, each of which has different regulatory objectives and subject matters.

In practice, N₂O-based products that are legally distributed for food-related purposes may be diverted for use as recreational inhalants to obtain euphoric effects. This condition demonstrates a discrepancy between the legality of N₂O distribution as a food additive and its misuse in society. The issue has become increasingly complex due to the expansion of distribution through digital platforms. BPOM, in collaboration with the Criminal Investigation Agency of the Indonesian National Police (Bareskrim Polri), identified the circulation of “Baby Whip” products containing N₂O that were marketed through online marketplaces (BPOM, 2026). Furthermore, the distribution of N₂O products in larger-sized packaging increases the potential for misuse, as it enables users to obtain and consume N₂O in significantly greater quantities compared to the smaller cartridges that were previously more commonly used (Bart Desmedt et al, 2024). This demonstrates that the sale of N₂O products in cartridge form through online marketplaces may broaden public access to N₂O and complicate regulatory oversight if it is not accompanied by mechanisms for verifying the intended use, monitoring usage purposes, and establishing the responsibility of platform providers.

The phenomenon of N₂O misuse has also demonstrated an increasing trend in various countries. In Michigan, United States, a significant increase in N₂O exposure cases was identified during the period of 2019-2023. This trend was evidenced by the rising number of emergency department visits and emergency medical service responses

associated with N₂O misuse (Varun et. Al, 2025). Furthermore, in Nigeria, the phenomenon of recreational N₂O use has developed into a public health issue, prompting the government to take measures against the illegal distribution and sale of N₂O. These findings demonstrate that ease of access and limited restrictions on the distribution of N₂O have the potential to increase the risk of misuse and cause serious health consequences for the public. Therefore, Indonesia should recognize the potential risks that may arise if the distribution of N₂O is not subject to adequate regulatory oversight.

These findings are consistent with the study conducted by Allan, Cameron, and Bruno, which explains that the increasing recreational use of N₂O not only creates medical concerns but also requires an adequate policy response, including aspects of service provision, harm reduction, and the protection of individuals and communities. Yockey's study emphasizes the urgency of restricting distribution by highlighting that inadequate regulation of the sale and distribution of N₂O canisters may increase the risk of misuse (Yockey, 2025). In the Indonesian context, this issue cannot be adequately addressed merely by recognizing the legality of N₂O as a food additive. The regulatory framework must also encompass aspects of distribution, accessibility, promotion, packaging size, verification of users' intended purposes, and oversight of digital platforms. Therefore, the control of N₂O should be systematically formulated through administrative supervision, distribution restrictions, mandatory health warning labels, risk awareness education, and the application of sanctions against distribution practices that are inconsistent with its intended use.

Based on the foregoing discussion, the legal regulation of N₂O in Indonesia has been established through several legal instruments; however, it remains fragmented and has yet to form a comprehensive regulatory framework. Existing positive law recognizes N₂O as a medical gas and a food additive, while also providing criminal provisions applicable to certain categories of products. Nevertheless, the existing regulatory framework does not specifically address recreational misuse, distribution through digital platforms, purchaser verification, limitations on quantity and packaging size, promotional activities, or the responsibilities of business actors and service providers. BPOM Circular Letter No. 2 of 2026 represents the government's initial administrative measure in recognizing the potential risks associated with N₂O misuse. However, the Circular Letter cannot independently establish new criminal norms or comprehensively regulate various aspects of N₂O misuse. This condition demonstrates the necessity of strengthening the regulatory framework, not only by controlling N₂O as a food additive but also by regulating distribution mechanisms, purchaser verification, monitoring of sales through digital platforms, packaging restrictions, and the responsibilities of

business actors in preventing its misuse as a recreational inhalant that poses risks to public health.

The Perspective of Health Criminal Law on the Misuse of Nitrous Oxide

The misuse of Nitrous Oxide (N₂O) requires analysis from the perspective of health criminal law because the issues arising from its misuse are not solely related to violations of legal provisions, but also concern the protection of public health as a legal interest that must be safeguarded by the state. From the perspective of health criminal law, the application of criminal law instruments is directed toward protecting society from health risks and adverse consequences. N₂O cannot fundamentally be treated in the same manner as narcotic substances, as it has legitimate applications in the medical and food sectors. However, the legality of such uses does not eliminate the risks arising when N₂O is utilized beyond its intended purposes, particularly through inhalation to obtain euphoric effects. In this context, the primary issue is not merely whether N₂O is classified as a prohibited substance, but rather how the law responds to the misuse of a legally permitted substance that may pose risks to public health.

From a health perspective, N₂O misuse cannot be considered a harmless recreational activity, as it has the potential to cause various serious health disorders. Exposure to N₂O may lead to the inactivation of vitamin B12, which subsequently disrupts the methylation process of myelin proteins and may result in demyelination of the central and peripheral nervous systems (Eric Et.Al, 2021). Furthermore, long-term use of N₂O is associated with vitamin B12 deficiency and significant neurological damage. In addition to causing neurological disorders, the recreational misuse of N₂O may also result in neuropsychiatric disturbances, including hallucinations, anxiety, depression, delirium, memory impairment, and behavioral changes that adversely affect user's mental health (H. Wu Et.Al, 2023). Another study also demonstrates that chronic N₂O misuse may cause additional complications, including frostbite, pneumothorax, and spinal cord degeneration (Agnesa Et.Al, 2024). Accordingly, the health consequences arising from N₂O misuse provide a basis for the state to intervene through appropriate health policies and adequate legal instruments. This obligation is consistent with Article 19 paragraph (1) of Law No. 17 of 2023 concerning Health, which stipulates that the State, through the central and regional governments, is responsible for individual health efforts and public health efforts. In the context of N₂O misuse, this provision demonstrates that the state is not only obligated to provide healthcare services but also required to undertake preventive measures against factors that have the potential to threaten public health. Therefore, the misuse of N₂O is not merely an issue concerning the use of a product beyond its intended purpose, but also constitutes a health law issue that requires the establishment of regulatory measures and legal protection for the public.

The urgency of state intervention becomes increasingly evident when considering the characteristics of N₂O, particularly its relatively easy accessibility and distribution. Allan, Cameron, and Bruno emphasize that recreational N₂O use requires policy attention due to its implications for individuals, healthcare services, and harm reduction strategies. These findings demonstrate that the protection of public health cannot be achieved solely by recognizing the legality of N₂O use in the medical and food sectors; rather, it requires policies capable of mitigating the risks associated with its misuse. France's experience demonstrates that a national monitoring system is capable of identifying the increasing misuse of N₂O at an early stage, thereby enabling the government to formulate evidence-based policies addressing the distribution and misuse of N₂O (Marylène Et. Al, 2023). France's practice demonstrates that the health criminal law approach does not merely rely on the imposition of sanctions, but also emphasizes preventive functions through supervision, monitoring, and restrictions on access to products that have the potential to endanger public health. Therefore, Indonesia needs to establish preventive mechanisms, access restrictions, distribution oversight, and health risk education to prevent N₂O misuse from developing into a broader public health issue.

The need for such restrictions is further supported by Yockey's study on the use of nitrous oxide canisters, which remain inadequately regulated. Yockey explains that N₂O canisters sold with minimal regulatory oversight may contribute to health risks, including oxygen deficiency, neurological damage, and even death. These findings demonstrate that the potential risks are not solely influenced by the characteristics of N₂O itself, but also by the ease of access to N₂O-containing products. From the perspective of health criminal law, this condition indicates that the object of regulation should not be limited to the substance of N₂O alone, but should also encompass the form of the product and its distribution mechanisms, which may facilitate misuse. Therefore, regulation should not be directed solely toward the substance itself, but must also address product forms, distribution channels, sales mechanisms, and promotional activities that may encourage recreational misuse.

Within the framework of health criminal law, the application of criminal law to address N₂O misuse must be carried out proportionally by considering the characteristics of N₂O as a substance that is legally used in the medical and food sectors. Therefore, a total prohibition of N₂O is not an appropriate approach, as it may potentially hinder its legitimate uses. A more proportionate approach is to establish a tiered regulatory framework through administrative oversight as an initial control mechanism, distribution restrictions and labeling requirements as preventive measures, and the application of criminal sanctions as an *ultimum remedium* against parties that intentionally distribute or promote N₂O for recreational purposes that endanger public

health. This approach is consistent with the concept of criminal law policy, which positions criminal law as a means of protecting society and promoting public welfare, rather than merely serving as an instrument of punishment (Arief, 2011). Accordingly, criminal law should function as a last resort after administrative mechanisms and distribution oversight have proven ineffective in preventing the misuse of N₂O.

The application of criminal sanctions against N₂O misuse is not intended to criminalize every form of substance misuse that may potentially endanger public health. Criminal law should be applied selectively by considering the level of harm, the objective of public health protection, and the parties most responsible for creating such risks. In many cases, N₂O misuse is more appropriately addressed through public health approaches, education, access restrictions, and rehabilitation services when health consequences occur. Conversely, stricter liability may be imposed on parties who profit from the distribution of N₂O beyond its intended purposes, particularly where sales are conducted without adequate oversight, without verification of intended use, or accompanied by promotional practices aimed at encouraging recreational effects and misuse. The Health Policy Agency of the Ministry of Health has noted that the sale of N₂O in Indonesia remains relatively unrestricted, lacks limitations on quantity or mechanisms for verifying intended use, and that circulating products generally do not contain adequate warning labels regarding the risks of inhalation. These findings demonstrate that the issue does not solely concern misuse by individual users, but also involves inadequate distribution controls that allow legally marketed products to be diverted for recreational misuse. This condition indicates that a regulatory framework relying solely on administrative measures is insufficient to address the risks associated with N₂O misuse as a recreational inhalant.

The distinction between users and distributors is essential in formulating a proportionate criminal policy. Such a distinction is necessary to ensure that criminal law policy is not oriented toward imposing sanctions on individuals who have already suffered health consequences from N₂O misuse, but rather directed toward parties who create, facilitate, or obtain benefits from the distribution of N₂O for recreational purposes. Users are more appropriately positioned as subjects requiring a public health approach, whereas distributors or business actors who knowingly promote and provide N₂O for recreational purposes may be regarded as parties that create or amplify risks to society. Under this framework, criminal law is not directed at punishing victims of misuse, but rather at addressing parties that exploit distribution gaps for commercial gain.

Based on the foregoing discussion, the perspective of health criminal law on N₂O misuse should not be directed toward the comprehensive criminalization of the substance or its users. Instead, the primary focus should be on formulating distribution restrictions

that are capable of maintaining a balance between the legitimate use of N₂O and the protection of public health. The regulatory model that may be developed includes restricting sales to parties with legitimate purposes, monitoring online distribution, imposing mandatory warning labels, providing health risk education, and applying criminal sanctions against distribution activities that are intentionally conducted beyond the intended purpose and pose serious threats to public health. Through such a regulatory model, public health protection can be achieved without eliminating the legitimate utilization of N₂O in the medical and food sectors.

Conclusion

Based on the findings of this study, the legal framework governing the misuse and distribution of N₂O in Indonesia consists of Law No. 17 of 2023 concerning Health, Government Regulation No. 28 of 2024 as its implementing regulation, and BPOM Circular Letter No. 2 of 2026 concerning the Production, Importation, Registration, and Distribution of Dinitrogen Monoxide as a Food Additive. However, these regulations remain fragmented and sectoral in nature and have yet to establish a specific legal framework governing the recreational misuse of N₂O. Although N₂O has legitimate uses in the medical and food sectors and is not included within the narcotics regime under Law No. 35 of 2009 concerning Narcotics, regulatory gaps remain concerning digital distribution mechanisms, verification of intended use, promotional restrictions, and oversight of N₂O-based products that may potentially be diverted for use as recreational inhalants. From the perspective of health criminal law, N₂O misuse constitutes a public health protection issue; therefore, the legal response should not be directed toward the comprehensive criminalization of the substance or all of its users. A more proportionate approach is to implement controlled distribution measures through administrative oversight, access restrictions, online distribution monitoring, mandatory warning labels, health risk education, and the application of criminal sanctions as an *ultimum remedium*. Criminal liability is more appropriately directed toward parties who intentionally distribute or provide N₂O-based products for recreational purposes that endanger public health. Article 435 in conjunction with Article 138 paragraphs (2) and (3) of the Health Law provides a legal basis for criminal sanctions against the distribution of pharmaceutical preparations and/or medical devices that fail to meet safety, efficacy, and quality standards, while Government Regulation No. 28 of 2024, through Article 429 paragraph (1), regulates the control of addictive substances. However, these provisions do not specifically regulate N₂O as a recreational inhalant or accommodate the characteristics of N₂O-based products marketed as food additives. Based on these findings, strengthening the regulation of N₂O requires the development of policies that integrate health, food safety, and public protection aspects. BPOM, together with the Ministry of Health, should enhance distribution monitoring mechanisms, including oversight of digital marketplace transactions, verification of intended use, mandatory inclusion of health warning labels, and restrictions on the sale of N₂O-based products in accordance with their intended purposes. Furthermore, law enforcement authorities may apply criminal provisions selectively against parties who intentionally market and distribute N₂O for recreational purposes.

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